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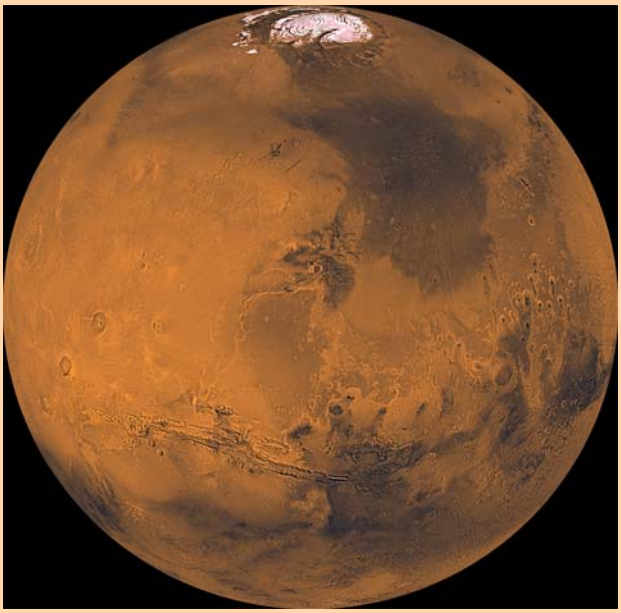
Mars

Fourth planet from the Sun



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Mars was named by the Romans for their god of war because of its red, bloodlike color.

Mars was once much warmer and wetter than it is today. Mars has the largest known volcano in the solar system (Olympus Mons), and the largest known canyon in the solar system (Valles Marineris).

Mars is visible to the naked eye without the aid of a telescope; its motion against the field of background stars shows it to be a planet. The word "planet" is derived from a Greek word for "wanderer."

Orbit
1.52 astronomical units (AU) from the Sun
Earth is 1 AU from the Sun

Length of year
687.0 Earth days = 1.88 Earth years

Length of Day
24.6 Earth hours

Tilt of Rotation Axis
25.2 degrees versus 23.5 degrees for Earth

Size
Diameter: 0.53 of Earth's diameter

Surface Gravity
0.38 of Earth's gravity
If you weigh 80 pounds on Earth, you would only weigh about 30 pounds on Mars!

Mass
0.11 of Earth's mass

Surface Temperature
Mean temperature: -85 degrees Fahrenheit
Temperature extremes: -190°F (night) to 75°F (day)

Atmosphere
Mars' atmosphere is very thin, with a surface pressure about 1/200th of Earth's.
Primary components: 95% carbon dioxide, 3% nitrogen, 1.5% argon, ~.03% water (varies with season) and no oxygen. *(By comparison, Earth has 78% nitrogen, 21% oxygen, 1% argon, .03% carbon dioxide.)*

The rust colored dust on Mars makes the sky look pink. Planet-wide dust storms can black out the sky.

Surface
The surface of Mars is colored rust and red; some of the rocks are darker basalt. There are channel formations on the surface, but no surface water is possible today due to the low atmospheric pressure; it would boil off into space.

Moons
Number of Moons: 2
Phobos, 13 miles in diameter
Deimos, 7.5 miles in diameter

Past Missions
The first American spacecraft to visit Mars was Mariner 4 (flyby, 1965). Subsequent successful missions included Mariner 6 and 7 (flybys, 1969), Mariner 9 (entered Mars orbit on November 13, 1971) and the two Viking landers in1976. Ending a long 20 year hiatus, Mars Pathfinder landed successfully on Mars on July 4, 1997.

Successful Russian missions to Mars include Mars-2 (orbiter, 1971), Mars-3 (orbiter, 1971), Mars-5 (orbiter, 1973), and Mars-6 (1973, landed capsule).

Current Missions
September 2005: The Hubble Space Telescope continues to observe Mars. At present orbiters include NASA's Mars Global Surveyor and 2001 Mars Odyssey, and the European Space Agency's Mars Express. The 2004 Mars Expedition Rovers *Spirit* and *Opportunity* landed on Mars and continue to send back geologic data and images.

NASA's Mars Reconnaissance Orbiter, launched in August 2005, will begin its active mission in November 2006, searching for evidence that water persisted on the surface of Mars for a long period of time and mapping potential landing sites for future missions.

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